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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/423,698
Filing Date: February 10, 2000
Appellant(s): LEROY, ODILE

Michael S. Greenfield
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 10, 2005.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is deficient because the summary indicates that the independent claims 1 and 16 recite "pharmaceutical compositions". It is noted that the claims are drawn to compositions per se, and the term "pharmaceutical" does not appear anywhere therein. With respect to the remaining description of the claimed invention, it is noted that the issue of negative interference and intended use with respect to treatment and prevention of infection are not the subject of the claims that are drawn to compositions per se and not vaccines or pharmaceutical compositions.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejection of claims 1-24 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

0 497 525 Merck & Co. Inc 1-1992

Chu et al, "Further Studies on the Immunogenicity of *Haemophilus influenzae* Type b and Pneumococcal Type 6A Polysaccharide-Protein Conjugates" Infection and Immunity, Vol. 40, No. 1, (April 1983), pp. 245-256.

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu et al (Infection and Immunity, 40(1):245-256, April 1983) in view of Merck and Co. Inc. (EP 0497 525, May 8, 1992).

Chu et al teach a composition comprising two or more conjugates comprising a bacterial polysaccharide coupled to a carrier protein. In particular, when two or more

conjugates were injected they were admixed in a single syringe (see page 247, column 2, "Immunization"). Chu et al teach the combination of *Haemophilus influenzae* Type b (Hib) and Pneumococcal Type 6A polysaccharide (Pn6A) protein conjugates. Hib was conjugated to horseshoe crab hemocyanin (HCH) and Pn6A was conjugated to tetanus toxin (TT) and were administered together (Table 3, page 250). Additionally, the polysaccharide K100 from *E. coli* was conjugated to TT or to HCH and was administered in combination with either Hib-HCH or Hib-TT respectively (see page 249, Table 2). The Hib and K100 conjugates were administered at 1.25 ug of polysaccharide and when in combination with Pn6A, each was injected at 2.5 ug polysaccharide. At these levels, the levels of TT or HCH administered is below 50 ug/dose (see Table 1, column 1, page 249). Chu et al also teach that when Hib-HCH was injected with either Pn6A-HCH or Pn6A-TT, both the anti-Hib and anti-Pn6A responses were increased over that induced by either conjugate alone (see abstract, page 245). Chu et al also teach that the injection of two conjugates did not exert a negative effect (page 253, column 1, first full paragraph). Chu et al teach that the conjugates were capable of inducing protective levels of both polysaccharides and carrier proteins (see abstract). Chu et al teach that the experiments have shown that a "useful" carrier is as effective as a "nonsense" carrier in mice. Therefore, it would seem that a "useful" carrier would be preferred in human use (page 254, column 1, first full paragraph).

Merck and Co. Inc. teach conjugates of partially hydrolyzed, highly purified, capsular polysaccharide (Ps) from *Streptococcus pneumoniae* serotypes 1, 2, 3, 4, 5, 6B,

7F, 8, 9N, 9V, 10A, 11 a, 12F, 14, 15B, 17F, 18C, 19F, 19A, 20, 22F, 23F and 33F conjugated to a protein moiety (PRO) wherein the PRO that should behave as an immune enhancer and that such immune enhancers are the outermembrane protein complex (OMPC) derived from *Neisseria miningitidis*, tetanus toxin, diphtheria toxin or pertussinogen may be used (page 3, lines 14-19 and page 16, lines 54-59). Merck and Co. Inc, teach vaccines comprising a mixture from one to ten different pneumococcal polysaccharide-immunogenic protein conjugates (Pn-Ps-PRO) induce broadly protective recipient immune responses against cognate pathogens (see abstract; paragraph bridging pages 2-3 and page 50, claim 10). Merck and Co. Inc. indicate that a polyvalent vaccine comprising 23 unconjugated *Streptococcus pneumoniae* (Pn) polysaccharides is commercially available as "PNEUMOVAX^{TM}23" and accounts for 90 percent of pneumococcal blood isolates. Merck and Co. Inc, teach that the unconjugated vaccines are least effective in the elderly and infants under two years of age, and this is the segment of the population most at risk for pneumococcal infections. Merck and Co. Inc. teach that since unconjugated polysaccharides are poor inducers of T-cell immune responses, conversion of the Pn-Ps into immunogens capable of inducing T-cell responses is the key to producing adequate protection in this target population. (see page 2, second full paragraph).

As to claims 1-12 and 14 it would have been *prima facie* obvious to one of ordinary skill in the art to modify the conjugate composition of Chu et al by combining any of the additional Pn-Ps-PRO conjugates of Merck and Co Inc. to provide for a conjugate vaccine

containing up to 10 different Pn-Ps-PRO conjugates because Merck and Co Inc. teach that vaccines comprising a mixture from one to ten different pneumococcal polysaccharide-immunogenic protein conjugates (Pn-Ps-PRO) induce broadly protective recipient immune responses against cognate pathogens and Merck and Co Inc teach that the PRO portion of the conjugate may be an immune enhancer such as diphtheria or tetanus toxoid (TT or DT). As to claims 16, 17, 18 and 21, it would have been *prima facie* obvious to one having ordinary skill in the art at the time that the invention was made to substitute the protein DT of Merck and Co Inc for the HCH in the Hib-HCH conjugate of Chu et al because Chu et al teach that a "useful" carrier would be preferred in human use (page 254, column 1, first full paragraph) and Merck and Co. Inc. teach that PRO that should behave as an immune enhancer and that such immune enhancers are the outermembrane protein complex (OMPC) derived from *Neisseria miningitidis*, tetanus toxin, diphtheria toxin or pertussinogen may be used in conjugate vaccines for human use. As to claims 1-24, it would have been further *prima facie* obvious to one of ordinary skill in the art to modify the conjugate composition of Chu et al by adding any of the additional Pn-Ps-PRO conjugates of Merck and Co Inc. to provide for a conjugate vaccine containing up to 23 different Pn-Ps-PRO conjugates because Merck and Co Inc. teach that vaccines comprising a mixtures of different pneumococcal polysaccharide-immunogenic protein conjugates (Pn-Ps-PRO) induce broadly protective recipient immune responses against cognate pathogens, Merck and Co Inc teach that the PRO portion of the conjugate may be an immune enhancer such

as TT or DT and the combination of all 23 polysaccharide serotypes would provide the benefit of covering 90 percent of pneumococcal blood isolates (disease causing).

(11) Response to Argument

Appellant reviews the legal standard for obviousness under 35 U.S.C 103. While the office does not take an issue with the precedent cited, it is noted that *In re Fine*, 837 F.2d 1071, 1075, 5U.S.P.Q.2d 1959 (Fed. Cir. 1988) states that under section 103 a *prima facie* case of obviousness can be established by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art can lead the individual to combine the references. See also *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). As such, there is no absolute requirement that the modification, substitution or combination need to be expressly articulated by the art. Further, relevant to the instant rejection and arguments is the holding of the court in *In re Kerkhoven* (626 F.2d 846, 850, 205 USPQ 1069 (CCPA 1980) on compositions which finds that "It is *prima facie* obvious to combine two compositions each of which is taught by prior art to be useful for the same purpose in order to form third composition that is to be used for the very same purpose:idea of combining them flows logically from their having been individually taught in the prior art." As such, the combination as set forth in the rejection *supra* provides for the combination of the Chu et al conjugate compositions of Table 2, with the conjugate compositions of Merck & Co. Inc (see for example page 50, claim 10). The

composition as combined were used for the same purpose production of protective antibodies, for which Appellant argues is the intended use of the instantly claimed compositions.

Appellant argues that neither Chu et al nor EP '525 (cited as Merck & Co. Inc in the obviousness rejection set forth *supra*) either separately or in combination, teaches or suggests the compositions recited in claims 1-15 and 24. Appellant indicates that claim recites a composition that comprises at least two different kinds of carrier-protein conjugates, wherein the polysaccharide is derived from *Streptococcus pneumoniae* and wherein the carrier proteins of the conjugates are of at least two different types. Appellant argue that Chu et al fails to teach the second element, two different carrier proteins. This is simply not true, Chu et al teaches a composition comprising two different polysaccharides (Hib and Pn6a) and two different carrier proteins (HCH and Pn6A). Chu et al teaches a composition for inducing antibodies comprising Hib-HCH and Pn6A-TT and Hib- conjugated to two different carriers (see Table 2). What Chu et al lacks is the *addition of a second Streptococcus pneumoniae* carrier protein conjugate that is different from the Pn6A-TT of Chu et al or the same *Streptococcus penumoniae* polysaccharide conjugated to different carriers. The first obviousness statement was to modify the conjugate compositions of Chu et al by the addition of (i.e. combining) the conjugates of Merck & Co. Inc. (see rejection set forth *supra*). Appellant also argues that EP '525 fails to teach the first element (at least two conjugates comprising different

carrier proteins). Appellant argues that there is no suggestion in either Chu et al or EP '525 to make any additional compositions comprising at least two different kinds of polysaccharide-carrier conjugates, wherein the conjugates contain different carrier proteins, much less a suggestion to make a composition where the polysaccharide is derived from *Streptococcus pneumoniae*. The motivation to add the two compositions together was expressly provided by EP '525 and articulated for the record "combining any of the additional Pn-Ps-PRO conjugates of Merck and Co Inc. to provide for a conjugate vaccine containing up to 10 different Pn-Ps-PRO conjugates *because Merck and Co Inc. teach that vaccines comprising a mixture from one to ten different pneumococcal polysaccharide-immunogenic protein conjugates (Pn-Ps-PRO) induce broadly protective recipient immune responses against cognate pathogens [emphasis added].* Therefore, the addition of the conjugate composition of EP '525 (claim 10, page 50) to the composition of Chu et al (see Table 2, Groups 10, 11, or 14), as set forth *supra* necessarily provides for the composition of claim 1. The combination would result in comprising Hib-HCH and Pn6A-TT of Chu et al and the conjugates of claim 10 of EP'525. Appellant argues that the office has not pointed to a suggestion in the art that teach the desirability of different carrier proteins, nor the advantages of such. This again is not persuasive, a suggestion was articulated in EP '525. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant. *In re Linter*, 458 F.2d 1013, 173 USPQ 560 (CCPA 1972) (discussed below); *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir.

1990), cert. denied, 500 U.S. 904 (1991) (discussed below). Although *Ex parte Levengood*, 28 USPQ2d 1300, 1302 (Bd. Pat. App. & Inter. 1993) states that obviousness cannot be established by combining references "without also providing evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done" (emphasis added), reading the quotation in context it is clear that while there must be motivation to make the claimed invention, there is no requirement that the prior art provide the same reason as the Appellant to make the claimed invention. EP '525 teaches the desirability of combining multiple polysaccharides from *S. pneumoniae* and establishes that a vaccine comprising 23 different serotypes of polysaccharides was commercially available (page 2, second full paragraph) but insufficient because "they are poorly immunogenic themselves and have been shown to be quite good immunogens once they are conjugated to an immunogenic protein (third full paragraph). The skilled artisan in this art would have immediately combined the pneumococcal conjugate compositions. EP '525 teach the *Streptococcus pneumoniae* conjugates in combination. There is nothing novel or unobvious about adding another *S. pneumoniae* conjugate comprising a different serotype polysaccharide to the composition which is noted by the art to produce antibodies at a protective level. Appellant argues that Chu et al in fact would discourage from making any additional compositions because the results of Chu's experiments with such compositions were actually negative - they failed to elicit a stronger immune response because the effect of injecting both Hib conjugates was similar to that observed with the monovalent

preparation. While this may be true after the third injection it is not that which is observed at the second injection. It is also not persuasive because there is no requirement under 35 USC 103, that the combination provide for an improvement and a known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use see *In re Gurley*, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994). It is not a "teaching away" or "negative teaching" because the composition did produce the desired antibodies and it does not constitute a negative teaching because both Chu et al and EP '595 acknowledge that the method of synthesis of the conjugates were capable of inducing protective levels of antibodies to both the polysaccharides and carrier proteins (see abstract). Appellant continues to argue it is necessary that at least one of the references needs to articulate the motivation Appellant sets forth in the specification. This remains not persuasive. The prior art need not articulate the same motivation for combination as taught by the specification. Appellant continues to argue the references individually and not as combined and continues to argue that one skilled in the art would not recognize any benefit from the combination of different carriers. This is not persuasive, because Chu et al teach that the combination of Hib and Pn6A conjugates was better at producing antibodies than either alone. This is an advantage that would be recognized by the skilled artisan. Appellant cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. *In re Keller*, 642 F.2d 413, 208

USPQ 871 (CCPA 1981); *In re Merck & Co.*, Inc., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Appellant has not argued the references as combined. The fact that Appellant has recognized another advantage which would flow naturally from following the suggestion of the prior art to combine *S. pneumoniae* conjugates, where the immunogenic carrier can be tetanus toxin or a variety of others it cannot be the basis for patentability when the differences would otherwise be obvious. *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Appellant argues that the combination of diphtheria and tetanus toxoid as immunogenic carriers is also non-obvious over the references as combined. This is not persuasive, EP '525 teach that the immunogenic carrier protein "PRO" portion of the conjugate can be also be diphtheria toxoid (DT) and tetanus toxoid (TT). Therefore, it was well known in the art at the time that the invention was made that DT and TT were acceptable carriers and EP '525 alternatively suggests their use. Appellant argues the combination of Pn6A-TT or Pn6A-HCH in combination with Hib-HCH are irrelevant because they involve two different non-pneumococcal antigens and non-DT or non-TT carrier proteins. This is totally inaccurate. Pn6A is a pneumococcal polysaccharide and is recognized by the art as such. This is clearly acknowledged by EP '525 that teaches Pn6A is a serotype of *S. pneumoniae* (se page 4, lines 18-20). Therefore, the ability of the combination of Hib and Pn6A to produce responses over each alone is highly relevant here in view of the combination that was set forth *supra*. Appellant is again not arguing the references as combined and inaccurately characterize the Pn6A-conjugates of Chu et al as

not from *S. pneumoniae* and disregards Chu's teaching of enhanced serum antibody response with different carriers and the combination of different polysaccharides Hib with Pn6a. Therefore, EP '525 that teaches that the PRO may be DT, renders the combination of Chu et al compositions of Hib-carrier and Pn6A-TT with the alternative DT-Pn conjugates contemplated by EP '525 as *prima facie* obvious. Appellant argues that it is unclear whether the results are due to two different antigens or two different carrier proteins are irrelevant. This is not persuasive, it was increased, the scientific basis does not have to be articulated, the combination was better than either alone. Appellant argues that the results are contradictory and therefore cannot rise to the level of a suggestion the use of two carrier proteins. Again, Appellant misses the point of the rejection , the combination of the Pn6A-carrier containing conjugate compositions of Chu et al with that of EP '525. The lack of recognition by Appellant that Pn6A is in fact a pneumococcal polysaccharide from *S. pneumoniae* leads to an inaccurate characterization of the conjugate compositions of the teachings of Chu et al and lack of recognition that the combination of Hib and Pn6A to produce responses over each alone. All combined conjugate compositions of Chu et al and EP '525 are effective to produce protective antibodies. Appellant argues that the rejection is obvious to try, this is not persuasive the suggestion to combine is in the art and articulated in the rejection. Appellant argues that neither Chu et al, nor EP '525 address the problem of negative interference. This is still not persuasive, the art does not have to teach the same problem in order to suggest

making the same composition. Appellant again argues that EP '525 does not teach using different combinations of carrier proteins. Again this is not persuasive, Appellant persists in arguing the references individually, rather than the references as combined. The references as combined teach compositions comprising (Hib-carrier and Pn6A-TT from Chu et al) combined with the PRO-Ps-Pn of EP' 525 wherein the RPO-Ps-Pn of EP' 525 can alternatively be OMPC, TT, DT or pertussinogen, clearly renders obvious the instantly claimed invention. As such, the combination is *prima facie* obvious. The art recognizes antibody production using polysaccharides (the same or different) in combination with different carriers (Chu et al). It is *prima facie* obvious. The carriers are known, the polysaccharides are known and the conjugates are known. There is nothing unobvious using different combinations thereof. All were known to produce protective antibodies. Appellant argues that Chu's finding that the simultaneous injection of two conjugates did not exert a negative effect, is a red herring and argues the absence of a negative effect could have been because a low dose of conjugate was administered. This is irrelevant, the claims are not limited to dosages, and claim 16 that is in fact limited to a dosage, encompasses the dosage of the prior art. Appellant merely speculates... but cannot refute the factual observation explicitly articulated by Chu et al regarding negative interference. Appellant argues that there is hesitancy, rather than motivation to administer more that necessary to a healthy person for fear of encouraging unexpected adverse consequences. The alleged hesitancy is ludicrous in view of the record that indicates that the existing

commercial vaccine contains a combination of 23 different pneumococcal polysaccharides and claim 10 at page 50 of EP '595. Further, the art recognizes combination of multiple antigens in the same vaccine to limit the number injections (see page 50, claim 10) and providing broad protective coverage. Further, there is no hesitancy, the 23 pneumococcal polysaccharides are known and already combined in a commercially available vaccine. The art teaches the desirability of combining multiple conjugates "Thus a polyvalent vaccine containing the Pn-Ps from the most prevalent and pathogenic isolates of the organism can provide protection against a very high percentage of the most frequently reported pathogens in this class." (EP '595, page 2, first full paragraph). The art also teaches the advantages of conjugates in the elderly and infants most at risk for pneumococcal infections and conjugated immunogens capable of inducing T-cell immune responses is the key to protection in these target populations, and admit that the conjugate vaccine is not restricted to these individuals (EP '595, page 2, second full paragraph). Appellant argues that in the field of immunology it is recognized that one would not combine antigens unless there is a reasonable expectation of success given that the combination does not necessarily result in a cumulative, let alone synergistic response. This is not persuasive, the combination of 23 pneumococcal polysaccharides is effective in adults (see EP '525). Therefore, there is no evidence of not expecting to achieve a beneficial result with the combined conjugates .... especially when the art teaches the advantages of conjugates in producing responses in otherwise non-responders (i.e. the elderly and children less than 2

years old (see EP '525 page 2, second full paragraph) and the art individually teaches that the injected conjugates produce protective antibody. Appellant's allegation of a potential decreased immune response files in the face of the commercially available PNEUMOVAX™ 23 acknowledged by EP '525 as effective. Appellant's speculation regarding reduced immune response over the art as combined lacks evidentiary support. Even if there is a reduced immune response, there is no evidence of record that the composition as combined is not effective for its intended use. The courts have held that a known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use. *In re Gurley*, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994). Chu et al (pg 249, column 2, lines 8-17) *does not* establish that the use of two different carrier proteins using the same polysaccharide is inferior, just that it is not improved. Further, Appellant appears to argue against enablement of their own specification, by seeming to indicate that the art of vaccines is so unpredictable, that any combination is suspect of a decreased immune response and is subject to empiric evaluation of any beneficial effect for the combination. If true, then Appellant's own specification is similarly lacking for the broad scope of invention claimed. However, it is noted that the art in this filed of endeavor is highly developed with effective known conjugates of pneumococcal antigens and commercially available vaccines containing a combination of 23 different pneumococcal polysaccharides. The addition of the PRO-Ps-Pn conjugates to the composition of Chu et al is obvious... the art teaches that

the combination provides protection against a high percentage of the most frequently reported pathogens (see EP '525 page 2, paragraph 1). The art as combined provides both the motivation and a reasonable expectation of success. Appellant argues that there is no expectation of a cumulative, let alone a synergistic response. This is not persuasive, there is no requirement under 35 USC 103 that the obvious composition demonstrate "an improvement" or "additive" or "synergy" response. As to claims 16-23, Appellant again argues the references separately and not a combined. Appellant argues that Chu et al fails to teach or suggest DT as a carrier protein. This is not persuasive, DT as the carrier protein is explicitly taught by EP '525 and Chu et al teach that useful carriers would be preferred for human use and EP '525 teach that DT is a useful carrier. Chu et al does in fact teach a composition comprising at least two different carrier proteins, what it does not teach the same or different pneumococcal polysaccharides on the at least two different carrier proteins. Chu et al in fact teaches the same *Haemophilus* polysaccharide (Hib) on two different carriers (page 429, Table 2, Group 9) and two different polysaccharides on two different carriers (page 429, Table 2, Groups 8 and 11). In particular Group 11, teaches the conjugate combination of Hib-HCH and Pn6a-TT, the latter being a pneumococcal polysaccharide. Appellant mischaracterizes the teachings of Chu et al in this instance. Appellant again argues that one skilled in the art would be discouraged from making any additional compositions comprising different conjugates or the same polysaccharide with two different carriers because the combination was not an

improvement and cites Chu et al page 249, col. 2, lines 8-17. This is not persuasive for reasons set forth *supra*. Appellant maintains that Chu et al discourages the skilled artisan from making combinations of known different conjugates. This is not persuasive because the teachings of Chu et al are not in fact a teaching away as alleged, just not an improvement. In contrast to Appellant's position, Chu et al in fact provides motivation for combining additional components because it teaches that "Simultaneous injection of Hib and Pn6A conjugates with the same or different carriers resulted in an enhanced serum antibody response to each polysaccharide ." (Chu et al, page 245, abstract). The combination of Hib-HCH and Pn6A-TT provided for increased response to either polysaccharide. Therefore, in contrast to Appellants position, the combination provided for an increased response over that of either conjugate alone providing motivation to combine others for an enhanced response. Chu et al teach polysaccharide conjugates of Hib and Pn6A polysaccharides and EP' 595 teaches 23 different pneumococcal polysaccharides and teaches conjugates comprising the useful known carriers outermembrane protein complex (OMPC) derived from *Neisseria miningitidis*, tetanus toxin (TT), diphtheria toxin (DT) or pertussinogen may be used (page 3, lines 14-19 and page 16, lines 54-59). Chu et al teaches the combination of two different conjugates provides for an enhanced response to each carbohydrate, it would have been *prima facie* obvious to combine known conjugates identified for the same utility in the same composition to be utilized for the same purpose. The use of the same or different carriers is *prima facie*

obvious. The use of same pneumococcal polysaccharide with different carriers is *prima facie* obvious. All the pneumococcal polysaccharides were known in the art and all the carrier proteins were known in the art. All the conjugates, alone and combined provide for the same utility, vaccination. The combination of 23 pneumococcal polysaccharides in a single vaccine is known to the art. The combination of any of the conjugates taught by the prior art in any desired combination is *prima facie* obvious. The art provides motivation for combining such. The art teaches each pneumococcal polysaccharides conjugated to known immunologically effective carrier proteins. The claimed invention is drawn to a mere combination of that which is already known to the art and Chu et al teaches that combination of Hib and Pn6A provides for an increased response as compared to that alone and as such it remains *prima facie* obvious to combine known conjugates of the art. In contrast to Appellant's position, there is fact no "negative teaching" or "teaching away" found in Chu et al . In summary, the claims are drawn to compositions comprising combinations of conjugates of pneumococcal polysaccharides and carrier proteins that are known to the art as effective for production of antibodies. The art teaches the value of conjugate combinations and already recognizes a commercially available combination of 23 different polysaccharides. As in *In re Kerkhoven* (626 F.2d 846, 850, 205 USPQ 1069 (CCPA 1980) "It is *prima facie* obvious to combine two compositions each of which is taught by prior art to be useful for the same purpose in order to form third composition that is to be used for the very same purpose:idea of combining them flows logically from their

having been individually taught in the prior art." There is nothing nonobvious about combining known conjugates to produce different combinations that are intended for the same use, pneumococcal vaccination.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,
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Primary Examiner
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